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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,239	12/03/2003	Jean-Paul Mardon	12928/100021	7506
26646	7590	11/23/2005	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			ALEXANDER, MICHAEL P	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/728,239

Applicant(s)

MARDON ET AL.

Examiner

Michael P. Alexander

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/647,339.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 18 March 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Interpretations***

The Examiner would like to set forth his interpretation of claim 1. Claim 1 recites, "(a) zirconium based alloy also containing, by weight, 200 to 700 ppm in total firstly of iron and secondly at least one of the elements selected from the group consisting of: chromium and vanadium, 0.8% to 1.3% by weight of niobium, 1100 to 1700 ppm of oxygen, less than 100 ppm of carbon, 10 to 35 ppm of sulfur and less than 50 ppm of silicon, and tin content 100 ppm or less in weight." The Examiner interprets the claims as being directed to a zirconium alloy comprising by weight: (I) 200 to 700 ppm of iron and (II) at least one of the elements selected from the group consisting of: (a) chromium and vanadium, (b) 0.8% to 1.3% niobium, (c) 1100 to 1700 ppm of oxygen, (d) less than 100 ppm of carbon, (e) 10 to 35 ppm of sulfur and less than 50 ppm of silicon, and (f) less than 100 ppm of tin.

Claim 2 is interpreted in the same manner as claim 1.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Lunde et al. (US 4,212,686).

Regarding claim 1, Lunde et al. teach (Alloys 2 and 3 in column 2) a zirconium based alloy also containing, by weight, 400 to 500 ppm of iron and 0.92 to 1.13% of niobium.

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Regarding claim 2, Lunde et al. teach (col. 1 lines 10-58, Alloys 2 and 3 in column 2, col. 2 lines 50-56) a fuel cladding and tube (i.e. sheathing tube for a nuclear fuel rod or guide tube) for a nuclear fuel assembly, made from a zirconium alloy also containing, by weight, 400 to 500 ppm of iron and 0.92 to 1.13% of niobium, in the recrystallized state (col. 2 lines 18-22). The Examiner asserts that the alloy would inherently have at least the greater part of iron being in the form  $Zr(Nb,Fe,Cr)_2$  or  $Zr(Nb,Fe,V)_2$  and in which the intermetallic compounds are of a size not exceeding 200 nm (col. 2 lines 12-15).

Regarding claim 3, Lunde et al. teach (col. 2 lines 50-56) forming the alloy into a sheet.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
mpa

  
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